8.3

20) HW p526 4-6, 11-14, 19-21, 25, 26, 38, 35

4. Both pairs of opp. $\angle$s $\cong$, quad is $\square$

5. Both pairs of opp sides $\cong$, quad is $\square$

6. Diagonals bisect each other, quad is $\square$

11.-14 see graph paper

19. $180 - 66 = 114° = x$

20. $3x + x = 180$

$4x = 180$

$x = 45$

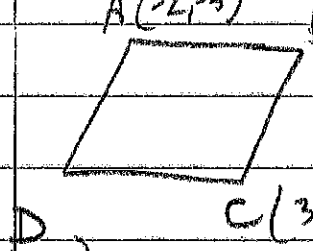
21. $x + 10 + 2x + 20 = 180$

$3x + 30 = 180$

$3x = 150$

$x = 50$

25.



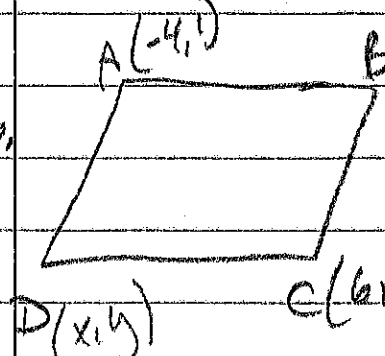

Midpt $\overline{AC}$ $\left(\frac{1}{2}, \frac{-1}{2}\right)$

$\frac{x+4}{2} = \frac{1}{2}$ $\quad \frac{y+-3}{2} = \frac{-1}{2}$

$x = -3$ $\quad y = 2$

$(-3, 2)$

26.

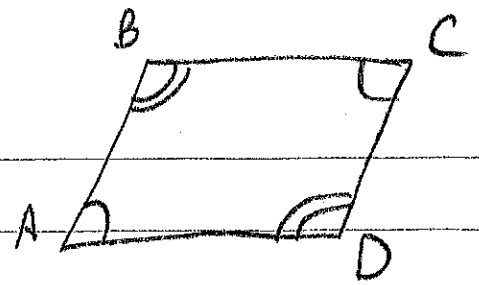



Midpt $\overline{AC}$ $(1, 3)$

$\frac{x + -1}{2} = 1$ $\quad \frac{y+5}{2} = 3$

$x = 3$ $\quad y = 1$

$(3, 1)$



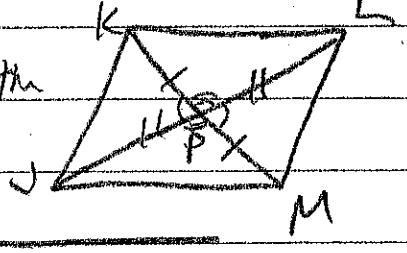

38. G: $\angle A \cong \angle C$ $\angle B \cong \angle D$

P: ABCD is a $\square$

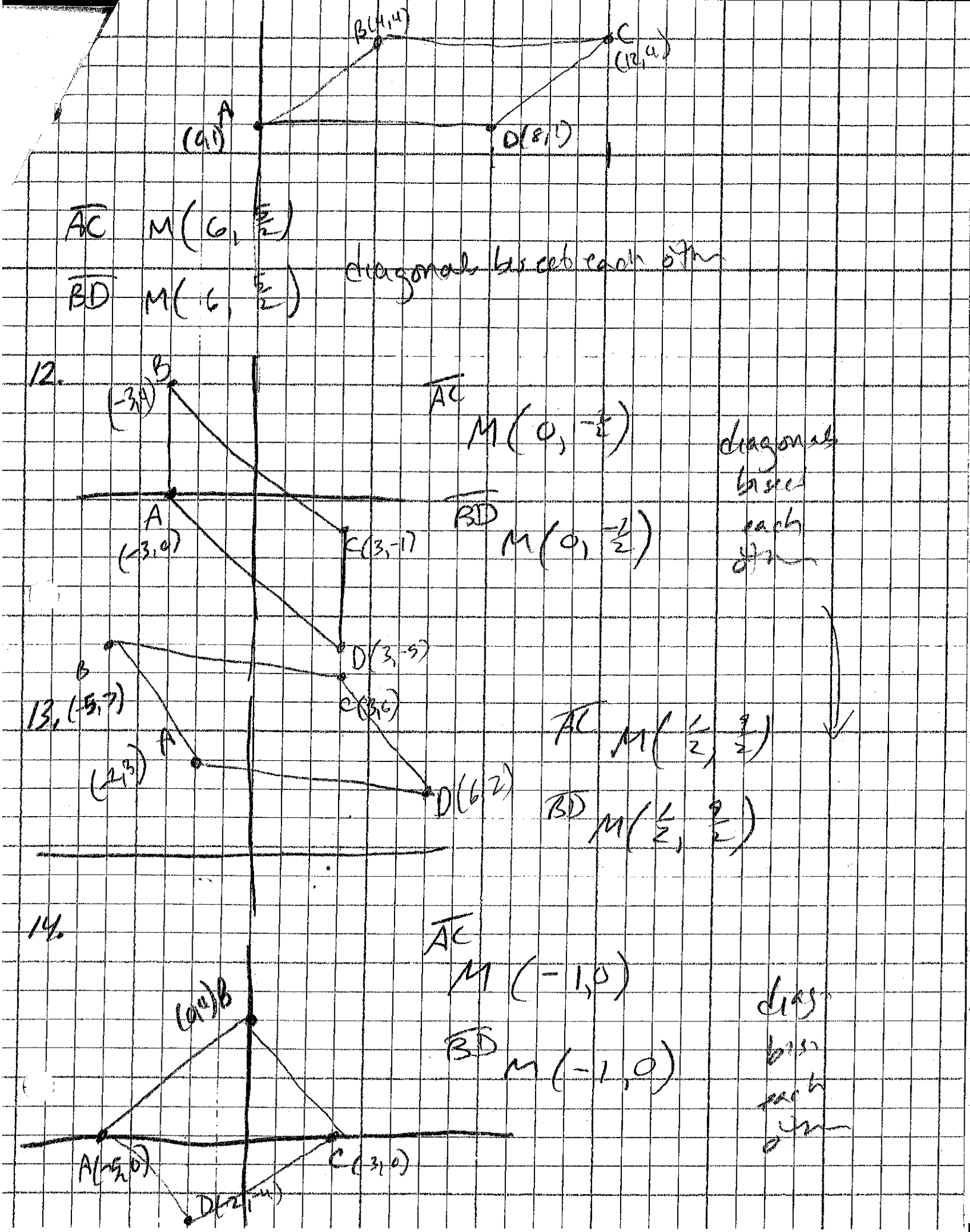
| Statements | Reasons |
|---|---|
| ① ~ | ① Given |
| ② $m\angle A = m\angle C$ $m\angle B = m\angle D$ | ② def of $\cong$ |
| ③ $m\angle A + m\angle C + m\angle B + m\angle D = 360$ | ③ Polygon Int $\angle$s Thm |
| ④ $m\angle A + m\angle A + m\angle B + m\angle B = 360$ | ④ Subst |
| ⑤ $2m\angle A + 2m\angle B = 360$ | ⑤ Subst |
| ⑥ $m\angle A + m\angle B = 180$ | ⑥ div |
| ⑦ $m\angle C + m\angle B = 180$ | ⑦ subst |
| ⑧ $\angle A$ & $\angle B$ are suppl<br>$\angle C$ & $\angle B$ are suppl | ⑧ def of suppl. |
| ⑨ $\overline{AB} \parallel \overline{CD}$ $\overline{BC} \parallel \overline{AD}$ | ⑨ Cons. Int $\angle$s Conv. |
| ⑩ ABCD is $\square$ | ⑩ def of $\square$ |

39. G: Diagonal $\overline{JL}$ & $\overline{KM}$ bisect each other

P: JKLM is $\square$




| Statements | Reasons |
|---|---|
| ① ~ | ① Given |
| ② $\overline{KP} \cong \overline{MP}$ ; $\overline{JP} \cong \overline{LP}$ | ② def of bisect |
| ③ $\angle KPJ \cong \angle MPL$ ; $\angle KPL \cong \angle MPJ$ | ③ Vertical $\angle$s are $\cong$ |
| ④ $\triangle KPJ \cong \triangle MPL$ $\triangle KPL \cong \triangle MPJ$ | ④ SAS |
| ⑤ $\overline{KJ} \cong \overline{ML}$ ; $\overline{KL} \cong \overline{MJ}$ | ⑤ CPCTC |
| ⑥ JKLM is $\square$ | ⑥ If Both pairs of opp sides $\cong$, then $\square$ |


B(4,4)
C
(12,4)
A
(6,1)
D(8,1)
$\overline{AC}$ $M(6, \frac{5}{2})$
$\overline{BD}$ $M(6, \frac{5}{2})$
diagonals bisect each other
12.
B
(-3,0)
A
(-3,0)
C(3,-1)
D(3,-5)
$\overline{AC}$
$M(0, -\frac{1}{2})$
$\overline{BD}$ $M(0, -\frac{1}{2})$
diagonals bisect each other
13. B (-5,7)
A
(-2,3)
C(3,6)
D(6,2)
$\overline{AC}$ $M(\frac{1}{2}, \frac{9}{2})$
$\overline{BD}$ $M(\frac{1}{2}, \frac{9}{2})$
14.
(0,4) B
A(-2,0)
C(-3,0)
D(-2,-4)
$\overline{AC}$
$M(-1,0)$
$\overline{BD}$ $M(-1,0)$
diagonals bisect each other